CELL APPLICATIONS, INC.

Beta-Catenin Antibody

Cat. No. CG1040

Applications:	**WB, IHC**
Detected MW:	**85 kDa**
Species & Reactivity:	**Human, Rat, Mouse**
Isotype:	**Rabbit IgG**

BACKGROUND

The protein beta-Catenin was first described in humans as a member of the cell membrane-bound adherens complex. A second role for beta-Catenin in cell-signaling was discovered, which involves translocation of this protein from the cytoplasm into the nucleus. beta-Catenin may be regarded as existing in three different subcellular forms: membrane-bound (as part of the adherens complex), cytosolic, and nuclear. Binding of the protein to other members of the adherens complex, ie, E-cadherin and α-Catenin, is thought to be regulated by tyrosine phosphorylation. Tyrosine phosphorylation of beta-Catenin leads to its dissociation from the adherens complex to the cytosol.[1] Cytosolic beta-Catenin may subsequently be translocated into the nucleus or be degraded. In nucleus, beta-Catenin binds with a member of the TCF/LEF family of transcription factors to form a complex that activates transcription of target genes by binding to their promoter sequences.[2] The degradation of beta-Catenin involves binding of the protein to a complex involving APC protein, and two further proteins, AXIN and glycogen synthase kinase (GSK)-3beta. The latter serves to phosphorylate serine and threonine residues on beta-Catenin, a crucial step required to target the protein for ubiquitination and proteosomal degradation. Both APC and AXIN enhance this phosphorylation. Phosphorylation of beta-Catenin is important in enabling binding to the F box protein beta-TrCP and hence ubiquitin-mediated proteolysis.[3] Wnt signaling pathway plays important role in regulation of this process.[4] Binding of Wnt family glycoproteins to their *trans*-membrane receptor, Frz, leads to increased activity of the protein Dishevelled (Dvl) that, in turn, inhibits GSK-3beta phosphorylating activity, which leads to increase of cytosolic beta-Catenin and its nuclear translocation. However, it has recently been shown that beta-Catenin may also be targeted for such degradation independent of GSK-3beta-mediated phosphorylation. This putative alternative pathway requires interaction between beta-Catenin, APC, and a complex of proteins including the p53-inducible protein, Siah-1.[5]

References:

1. Hinck, L. et al: Trends in Biochem Sci. 19:538-542, 1994
2. Alexander, N. et al: Am. J. Path. 160:389-401, 2002
3. Mulholland, D.J. et al:Endocrin. Rev. 26:898-915, 2005
4. Clevers, H.: Cell 127:469-480, 2006
5. Liu, J. et al: Mol. Cell 7:927-36, 2001

TECHNICAL INFORMATION

Source:
Beta-Catenin Antibody is a rabbit antibody raised against a short peptide from N-terminal sequence of human beta-Catenin.

Specificity and Sensitivity:
This antibody detects endogenous beta-Catenin proteins in cell lysates without cross-reactivity with other family members.

Storage Buffer: Anti-Catenin-β Antibody detects endogenous levels of total Catenin-β protein.

Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:500-1:1000
IP	n/d
IHC	1:50-1:100
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

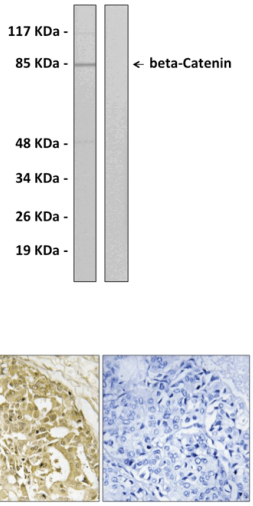
CELL APPLICATIONS, INC.

Beta-Catenin Antibody

Cat. No. CG1040

Applications:	**WB, IHC**
Detected MW:	**85 kDa**
Species & Reactivity:	**Human, Rat, Mouse**
Isotype:	**Rabbit IgG**

QUALITY CONTROL DATA



Top: Immunoblotting analysis of extracts from HT-29 cells, treated with Forskolin, using Anti-Catenin-β, N-Terminal antibody. The lane on the left was treated with the Anti-Catenin-β, N-Terminal antibody. The lane on the right (negative control) was treated with both Anti-Catenin-β, N-Terminal antibody and the synthesized immunogen peptide.
Bottom: Immunohistochemistry analysis of paraffin-embedded human breast carcinoma tissue using Anti-Catenin-β, N-Terminal antibody. Cells on the left were treated with the Anti-Catenin-β, N-Terminal antibody. Cells on the right (negative control) were treated with both Anti-Catenin-β, N-Terminal antibody and the synthesized immunogen peptide.